

Performance of PLC Synchronization for DOCSIS 3.1 Receiver

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Abstract— A Physical layer link channel (PLC) is a narrowband signaling channel located within the downstream OFDM channel used in data-over-service-interface specifications (DOCSIS) 3.1 system. It consists of a PLC preamble and PLC data which include information about a low density parity check (LDPC) coding rate, QAM order and interleaver depth etc. PLC preamble has +1 or -1 for PLC synchronization. In this paper, a novel method of PLC synchronization in frequency domain is proposed to demodulate a received orthogonal frequency division multiplexing (OFDM) signal correctly.

Keyword— DOCSIS 3.1, OFDM, PLC.



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